

State of Alaska FY2008 Governor's Operating Budget

Department of Public Safety Laboratory Services Component Budget Summary

Component: Laboratory Services

Contribution to Department's Mission

Use forensic science to assist criminal investigations.

Core Services

- 1) The Alaska Scientific Crime Detection Laboratory is the only forensic facility available in Alaska to provide forensic services at no charge to all law enforcement agencies.
- 2) Forensic services include the scientific examination and detailed analysis of evidence in criminal cases, assistance with crime scene investigations to include expert testimony in court regarding the results of the testing of evidence, and training of law enforcement officers regarding proper evidence collection and preservation.
- 3) The crime laboratory's areas of expertise are latent fingerprints, trace evidence, shoe print/tire track, controlled substances, blood alcohol analysis, toxicology screening, biological evidence screening, DNA, firearm/tool mark, and crime scene investigations.
- 4) The crime laboratory administers the statewide breath alcohol program, which provides law enforcement agencies with properly calibrated and certified instruments for administering evidential breath tests. Expert testimony in alcohol-related court proceedings and support for non-evidential breath test devices is also provided.
- 5) The Alaska Scientific Crime Detection Laboratory maintains Alaska's DNA Identification System. DNA profiles are routinely uploaded into the National DNA Index System (NDIS) and searched against profiles submitted by other states.
- 6) The Alaska Scientific Crime Detection Laboratory maintains Alaska's Integrated Ballistic Identification System (IBIS). Through the use of the IBIS, digital images of the markings made by a firearm on bullets and cartridge casings are acquired and searched against a database of images of firearms evidence recovered from crime scenes. These images are routinely uploaded into the National Integrated Ballistic Information Network (NIBIN) and searched against images of ballistic evidence submitted by other states.
- 7) Crime laboratory personnel are active members in several organizations that have the responsibility for setting the standards for training and certification of analysts nationally in the various forensic disciplines as well as accreditation standards for crime laboratories.

End Results	Strategies to Achieve Results
<p>A: Improved utility of forensic science to assist statewide law enforcement with their criminal investigations.</p> <p><u>Target #1:</u> 5% increase per year in rate of unsolved criminal investigations aided by Alaska's DNA database. <u>Measure #1:</u> % change in rate of unsolved criminal investigations aided by Alaska's DNA database.</p> <p><u>Target #2:</u> 5% increase per year in the number of latent fingerprints identified using fingerprint or palm print automated identification systems. <u>Measure #2:</u> % change in number of fingerprints identified using automated identification systems.</p>	<p>A1: Expand forensic databases.</p> <p><u>Target #1:</u> 5% increase per year in the number of DNA forensic profiles entered into the DNA database per year. <u>Measure #1:</u> % change in number of profiles entered.</p> <p><u>Target #2:</u> Eliminate backlog of qualified convicted offender profile samples to be entered into the DNA data <u>Measure #2:</u> Number of qualified convicted offender profile samples entered into the data base.</p> <p><u>Target #3:</u> 5% increase per year in the number of latent fingerprint lift cards submitted to the laboratory which are suitable for comparison. <u>Measure #3:</u> % change in number of latent fingerprint</p>

cards submitted to the laboratory and examined.

Major Activities to Advance Strategies

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| <ul style="list-style-type: none"> • Enter additional convicted offender profiles. • Enter additional forensic profiles. • Train law enforcement to submit more "no-suspect" cases. • Participate in proficiency testing. • Comply with accreditation by monitoring expert witness testimony. • Maintain and follow the laboratory's quality assurance program. • Provide continuing education for analysts. • | <ul style="list-style-type: none"> • Perform audits of laboratory operations. • Perform internal audits of laboratory operations for 4 sequential years, and in the 5th, receive audit by an inspector from the accreditation board. • Provide training to supervisor of Statewide Breath Alcohol Program. • Provide calibration alcohol standards. • Certify DataMaster verification of calibration reports. • As needed, repair or replace instruments used in Statewide Breath Alcohol Program. • Provide necessary supplies and expert testimony to support Statewide Breath Alcohol Program. |
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FY2008 Resources Allocated to Achieve Results

FY2008 Component Budget: \$4,652,700

Personnel:

Full time	39
Part time	0
Total	39

Performance Measure Detail

A: Result - Improved utility of forensic science to assist statewide law enforcement with their criminal investigations.

Target #1: 5% increase per year in rate of unsolved criminal investigations aided by Alaska's DNA database.

Measure #1: % change in rate of unsolved criminal investigations aided by Alaska's DNA database.

Number of Investigations Aided (fiscal year)

Fiscal Year	YTD Total	Percent Inc/Dec
FY 2004	14	
FY 2005	52	+271%
FY 2006	54	+4%

Source: Crime Lab

Analysis of results and challenges: The success of Alaska's DNA database is measured by the crimes it helps to solve. "Investigations aided" tracks the number of criminal investigations where the database has added value to the investigative process. An investigation can be aided by using the database to link two or more unsolved crime scene DNA profiles, or by linking a crime scene profile to the DNA profile obtained from a known convicted offender. The key to increasing the number of investigations aided is to increase the size of the database with both DNA profiles from unsolved crime scenes and DNA profiles from additional convicted offenders. The dramatic increase in the number of investigations aided in FY2005 can be directly attributed to a large number of new convicted offender DNA profiles entered during this time period. With the backlog of offender samples reduced, fewer offender profiles were entered in FY2006, but the number of investigations aided still increased because more DNA profiles from unsolved crime scenes were entered in this fiscal year.

According to FBI statistics published in May of 2006, Alaska's database has aided more investigations than

databases in 20 other states, and the total number of investigations aided in Alaska exceeds the combined total of 14 of these states. Alaska has one of the most successful DNA databases in the nation on a per capita basis.

Target #2: 5% increase per year in the number of latent fingerprints identified using fingerprint or palm print automated identification systems.

Measure #2: % change in number of fingerprints identified using automated identification systems.

Number of Fingerprints Identified Using Automated Identification Systems (fiscal year)

Fiscal Year	YTD Total	Percent Inc/Dec
FY 2004	66	
FY 2005	17	-74%
FY 2006	31	+82%

Source: Crime Lab

Analysis of results and challenges: The number of fingerprints identified using automated identification systems increased by 82% as two vacant fingerprint examiner positions were filled in FY2006 resulting in more latent fingerprints being searched. At the end of FY2006, two new forensic technicians were hired and assigned to the Palmer and Fairbanks areas. A major part of their jobs will be to process and collect fingerprint evidence at crime scenes. It is expected that additional latent fingerprint evidence submitted by these two individuals will result in an increased number of finger and palm prints identified using automated identification systems in FY2007.

A1: Strategy - Expand forensic databases.

Target #1: 5% increase per year in the number of DNA forensic profiles entered into the DNA database per year.

Measure #1: % change in number of profiles entered.

DNA Forensic Profiles Entered (fiscal year)

Fiscal Year	YTD Total	Percent Inc/Dec
FY 2004	93	
FY 2005	86	-8%
FY 2006	134	+56%

Source: Crime Lab

Analysis of results and challenges: The numbers above represent only forensic profiles attributed to unknown individuals that were recovered from crime scene evidence. The number of forensic profiles entered in FY2006 increased significantly as the laboratory implemented new, higher throughput testing equipment.

Target #2: Eliminate backlog of qualified convicted offender profile samples to be entered into the DNA data

Measure #2: Number of qualified convicted offender profile samples entered into the data base.

Convicted Offender Profiles Entered (fiscal year)

Fiscal Year	# Added during FY	# in Data Base at FY End	# in Backlog at FY End
FY 2004	16	3,265	
FY 2005	5,383	8,648	
FY 2006	2,215	10,863	
FY 2007			*

* Will be provided for reporting periods subsequent to FY2006 after implementation of new laboratory management information system (LIMS)

Source: Crime Lab

Analysis of results and challenges: The number of convicted offender profiles (samples taken from qualifying individuals) entered into the DNA data base continued to increase in FY2006, on the heels of the dramatic FY2005 increase that was due to the laboratory's participation in the National Institute of Justice Convicted

Offender Backlog Reduction Program. The size of the data base increased 165% in FY2005 and 26% in FY2006. A large portion of the samples entered in FY2005 was backlog from previous years; however, no data are currently available to provide the number of backlog samples entered during fiscal years 2005 and 2006 or presently pending. The laboratory is in the process of updating its laboratory information management system (LIMS). The new LIMS will include a module that will generate statistics for future reporting on the backlog of convicted offenders samples needing analysis.

The challenge will be to remain as current as possible in entering received samples and preventing further development of a backlog. Having sample data kept current means that those profiles are available for comparison against crime scene samples, facilitating crime solution and convictions.

Target #3: 5% increase per year in the number of latent fingerprint lift cards submitted to the laboratory which are suitable for comparison.

Measure #3: % change in number of latent fingerprint cards submitted to the laboratory and examined.

Officer Latent Lift Cards Analyzed (fiscal year)

Fiscal Year	YTD Total	Percent Inc/Dec
FY 2004	785	
FY 2005	657	-16%
FY 2006	697	+6%

Source: Crime Lab

Analysis of results and challenges: One method of increasing the number of latent prints submitted to the laboratory is to encourage law enforcement officers to take more latent fingerprints at crime scenes. This requires appropriate training. In addition to its normal training, the crime lab intends to use training videos, training bulletins, articles in law enforcement newsletters, etc., to provide both training information and encouragement regarding the effectiveness of increased law enforcement officer participation in building this database.

Key Component Challenges

The laboratory has experienced an increase in the number of cases submitted by law enforcement.

Fiscal Year	Cases Submitted
2004	2285
2005	2364
2006	2687

The number of cases submitted to the laboratory will continue to grow as law enforcement agencies around the state hire additional officers. Many of the increased requests to the laboratory involve expensive DNA testing. The demand for this testing has resulted in a need for more DNA testing and collection supplies. Also affecting the laboratory's budget are higher utility costs budget. The laboratory held a criminalist position vacant during most of FY2006 to fund the higher expenses in supplies and utilities.

The DNA and chemistry sections of the laboratory use sophisticated and expensive instrumentation to perform analysis of physical evidence. Federal grant money purchased this equipment and by FY2008, all of the warranties will be expired. The crime laboratory provides evidential breath testing instruments to law enforcement around the state that the laboratory is also responsible for repairing. The laboratory performs simple repairs, but instruments are also shipped back to the factory. The instruments were originally purchased with extended warranties that minimized the impact on the laboratory's equipment repair budget. These warranties have expired and increased repair expenses are anticipated through the expected life of the DataMaster instruments, 2010. Thirty-three thousand dollars is budgeted in FY2007 for all repairs including repair of office equipment and of the physical plant. This is inadequate to insure continued operation of laboratory equipment and the DataMasters. Repairing expensive equipment such as mass spectrometers, infrared spectrophotometers, and genetic analyzers can be very expensive and could severely impact the laboratory's budget unless additional funding is provided for this purpose.

Because of the effectiveness of Alaska's DNA database and testing program, the number of evidence submittals requesting DNA testing continues to increase. In order to help address this critical need for increased DNA testing, the crime laboratory has been heavily reliant on federal grant money to fund the purchase of DNA equipment, supplies, and to pay for analyst training and salary.

A National Institute of Justice Forensic DNA Backlog Reduction Grant federal grant paid to hire a long-term non-permanent employee to assist in screening items for the presence of biological evidence. This position focuses primarily on examining sexual assault evidence and isolating potential DNA evidence. Many of these backlogged sexual assault cases do not have suspects and have the potential to be solved through the DNA database. It is unknown if federal grant money will be available for FY2008 in order to retain this long term non-permanent screening position.

The laboratory needs a full time position whose primary responsibility is quality assurance. Expanded laboratory accreditation requirements combined with an increased staff size necessitates adding a new position. This position will oversee, monitor, and maintain the laboratory's quality assurance program to meet the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB) accreditation requirements. Duties include: updating and maintaining the quality assurance manuals; monitoring lab practices; overseeing the safety program; evaluating calibration/maintenance records; maintaining training records; scheduling and coordinating audits; and submitting ASCLD/LAB documentation.

The laboratory is near capacity in terms of physical space to house employees and equipment, and is also near capacity for storing case records and retained evidence items. The crime laboratory facility is now twenty years old, and is requiring more maintenance. The roof has leaked during periods of heavy rainfall, and the heating and cooling system often fails to maintain stable temperatures. This not only affects employee comfort, but can also cause problems with the operation of sophisticated laboratory instrumentation and evidence analysis.

The Department of Public Safety will seek funding for a much needed crime lab renovation/expansion. This will allow for employee and equipment expansion to meet future demands coming to the lab. In FY2007, \$4.8 million was appropriated for the design phase of this proposed expansion.

Significant Changes in Results to be Delivered in FY2008

AAFIS (Alaska Automated Fingerprint Identification System) Database Hits

The number of investigations aided by AAFIS is expected to increase during FY2008; forensic technicians assigned to crime scene response will be processing latent fingerprint evidence from numerous burglary and auto theft scenes. Forensic processing of evidence from these types of crimes has been under-used in the past.

CODIS (Combined DNA Index System) Database

The percentage of "no suspect" cases yielding DNA matching to known convicted offenders as well as the total number of investigations aided should continue to increase as the size of the database grows. When the database contains DNA profiles from a significant number of the criminally active population of Alaska, it will be an even more effective tool for identifying perpetrators.

Major Component Accomplishments in 2006

Breath and Blood Alcohol Testing

A new criminalist was hired in October 2005 to help support the state's breath alcohol program, which was severely understaffed. This criminalist received extensive training including attending three specialized 40-hour classes out of state. A criminalist working in the area of controlled substances completed training in the analysis of blood alcohol evidence. This analyst completed 230 toxicology assignments in FY2006. Having additional criminalists trained in the area of blood alcohol analysis has made a significant impact in backlog reduction and turn-around time.

Biological Screening

Using a federal grant from the National Institute of Justice, a long term non-permanent criminalist was hired in December 2005. This criminalist completed an extensive training program in the area of biological screening and began casework in June 2006. His primary duty is to reduce the backlog of sexual assault cases that must be screened for potential evidence prior to DNA testing.

National Integrated Ballistic Information Network (NIBIN)

The laboratory began participating in the National Integrated Ballistic Information Network in August 2005. A new service that the laboratory did not previously offer, NIBIN uses computer technology to allow law enforcement agencies to compare crime gun evidence. Using the Integrated Ballistic Identification System (IBIS), digital images of the markings made by a firearm on bullets and cartridge casings are acquired and searched against a database of images of firearms evidence recovered from crime scenes. This can yield valuable investigative information. The NIBIN system performs a preliminary automated initial comparison and provides a list of candidate matches that have the potential for linking crimes committed with the same firearm. The crime laboratory's forensic firearms examiner confirms all candidate matches and provides any court testimony that may be required. The Bureau of Alcohol, Tobacco, and Firearms provided, installed, and maintains the NIBIN equipment at no cost to the crime laboratory.

A federal Project Safe Neighborhood grant funded a forensic technician position to make NIBIN entries. Five hundred twenty-two items of evidence were entered during FY2006, and the system generated six "hits" linking evidence collected from various crimes including two different homicides.

DNA

The laboratory significantly increased its DNA testing capacity by purchasing additional equipment for DNA amplification and analysis. Using funds from an \$181,600 National Institute of Justice DNA Capacity Enhancement Program grant, the laboratory purchased a second high-throughput genetic analyzer, upgraded an existing genetic analyzer, and purchased additional DNA amplification equipment. This additional equipment improved the infrastructure and analysis capacity of the crime laboratory so that DNA samples are processed more efficiently and cost effectively. With the upgrade of the existing high-throughput genetic analyzer, the laboratory has standardized to one functional platform that includes the most up to date data collection software as well as hardware. The hardware upgrade significantly reduces analyst time for initializing the instrument to run, loading the capillary, and performing maintenance on the instrument, and therefore allows both instruments to functionally run in the same manner. Validation was completed on this new equipment and they were made operational.

The laboratory now has sufficient DNA typing capacity to process the workload expected to be submitted to it in the foreseeable future from both casework and convicted offender samples. Fully automated, the new genetic analyzers can simultaneously analyze 16 samples. These replaced units originally purchased in the late 1990's that could only analyze one sample at a time.

CODIS (Combined DNA Index System)

Alaska's CODIS continues to be one of the most successful DNA databases in the nation. According to July 2006 FBI statistics, Alaska's database has aided more investigations (156) than 20 other states, and the total number of investigations aided in Alaska exceeds the combined total of 14 of these states.

Laboratory Information Management System (LIMS)

Using federal funds from a National Institute of Justice Crime Laboratory Improvement Program, the laboratory implemented a new Laboratory Information Management System (LIMS). The laboratory was using a Microsoft Access database for tracking laboratory submissions. This database provided very limited information. The new LIMS provides real time information on the status of a case, tracks chain of custody of each item submitted, stores laboratory reports and case work documentation, tracks laboratory activities, and is capable of generating detailed management reports. These management reports can be used to track backlog, turn-around time, and productivity.

ASCLD/LAB Accreditation

The American Society of Crime Laboratory Directors/Laboratory Accreditation Board has accredited the crime laboratory since 1996. While accreditation is a voluntary program in which any crime laboratory may participate to demonstrate that its management, personnel, operational and technical procedures, equipment, and physical facilities meet established standards, accreditation is mandatory to obtain some federal grants and participate in the National DNA Index System. Accreditation is one part of the laboratory's quality assurance program that also includes proficiency testing, continuing education, and other programs to help the laboratory provide better overall service to the criminal justice system. During FY2006, the laboratory completed a thorough review of its operations and updated many manuals, policies, and procedures in preparation for an external laboratory inspection in FY2007.

DNA External Audit

To be compliant with federally mandated DNA Quality Assurance Guidelines, external auditors must inspect the DNA section of the laboratory at least once every two years. In FY2006, three auditors from the National Forensic Science Technology Center inspected the laboratory.

Crime Scene Investigations

The laboratory's crime scene team was reorganized and new policies and procedures were implemented. Two new latent fingerprint examiners were hired to fill vacancies and became part of the laboratory's crime scene team. Two forensic technicians were hired and trained. These technicians were assigned to the Fairbanks and Palmer areas to assist law enforcement in collecting evidence and processing items for fingerprints. Having forensic technicians stationed in the field is a new service offered by the laboratory.

Controlled Substances

Two new criminalists, hired to analyze controlled substances, completed training in late FY2005. These analysts made significant inroads into the backlog of drug cases during FY2006. The backlog, numbering over 400 cases in FY2005, was reduced to only 23 by the end of FY2006.

Statutory and Regulatory Authority

DPS - DNA Registration System (AS 44.41.035)

DPS - Fingerprint System (AS 44.41.025)

DPS - Powers and duties of department (AS 44.41.020)

State Troopers - Department to assist Other Agencies (AS 18.65.090)

State Troopers - Fingerprint Information (AS 18.65.050)

DPS - Forensic Alcohol Testing Regulations (13 AAC 63)

Contact Information

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Laboratory Services Component Financial Summary

All dollars shown in thousands

	FY2006 Actuals	FY2007 Management Plan	FY2008 Governor
Non-Formula Program:			
Component Expenditures:			
71000 Personal Services	2,539.4	3,073.0	3,641.0
72000 Travel	72.4	99.4	100.9
73000 Services	550.8	572.4	662.8
74000 Commodities	237.5	245.9	246.0
75000 Capital Outlay	153.1	2.0	2.0
77000 Grants, Benefits	0.0	0.0	0.0
78000 Miscellaneous	0.0	0.0	0.0
Expenditure Totals	3,553.2	3,992.7	4,652.7
Funding Sources:			
1002 Federal Receipts	253.5	407.7	407.5
1003 General Fund Match	13.3	13.3	13.3
1004 General Fund Receipts	3,147.0	3,387.0	4,027.1
1007 Inter-Agency Receipts	64.4	105.3	105.3
1061 Capital Improvement Project Receipts	0.0	0.0	10.0
1108 Statutory Designated Program Receipts	75.0	79.4	89.5
Funding Totals	3,553.2	3,992.7	4,652.7

Estimated Revenue Collections

Description	Master Revenue Account	FY2006 Actuals	FY2007 Management Plan	FY2008 Governor
Unrestricted Revenues				
Statutory Designated Program Receipts	51063	1.5	0.0	0.0
Unrestricted Total		1.5	0.0	0.0
Restricted Revenues				
Federal Receipts	51010	253.5	407.7	407.5
Interagency Receipts	51015	64.4	105.3	105.3
Statutory Designated Program Receipts	51063	75.0	79.4	89.5
Capital Improvement Project Receipts	51200	0.0	0.0	10.0
Restricted Total		392.9	592.4	612.3
Total Estimated Revenues		394.4	592.4	612.3

**Summary of Component Budget Changes
From FY2007 Management Plan to FY2008 Governor**

All dollars shown in thousands

	<u>General Funds</u>	<u>Federal Funds</u>	<u>Other Funds</u>	<u>Total Funds</u>
FY2007 Management Plan	3,400.3	407.7	184.7	3,992.7
Adjustments which will continue current level of service:				
-Ch 53 SLA 2006 (HB149) Controlled Substances - Delete One-time Costs	-14.2	0.0	0.0	-14.2
Proposed budget increases:				
-Increment to Add CIP Receipts Authority	0.0	0.0	10.0	10.0
-New Criminalist II 12-#011 DNA Capacity Enhancement	90.0	0.0	0.0	90.0
-New Criminalist IV 12-#012 Quality Assurance Manager	112.5	0.0	0.0	112.5
-Increased Utility Costs	15.0	0.0	0.0	15.0
-Service Contracts and Repairs for Laboratory Instruments and Equipment	58.0	0.0	0.0	58.0
-FY 08 Retirement Systems Rate Increases	378.8	-0.2	10.1	388.7
FY2008 Governor	4,040.4	407.5	204.8	4,652.7

Laboratory Services Personal Services Information

Authorized Positions			Personal Services Costs	
	<u>FY2007</u> <u>Management</u> <u>Plan</u>	<u>FY2008</u> <u>Governor</u>		
Full-time	37	39	Annual Salaries	2,147,871
Part-time	0	0	Premium Pay	19,659
Nonpermanent	2	1	Annual Benefits	1,631,897
			<i>Less 4.17% Vacancy Factor</i>	(158,427)
			Lump Sum Premium Pay	0
Totals	39	40	Total Personal Services	3,641,000

Position Classification Summary

Job Class Title	Anchorage	Fairbanks	Juneau	Others	Total
Administrative Assistant	1	0	0	0	1
Administrative Clerk II	1	0	0	0	1
Administrative Clerk III	1	0	0	0	1
Criminalist I	1	0	0	0	1
Criminalist II	4	0	0	0	4
Criminalist III	14	0	0	0	14
Criminalist IV	5	0	0	0	5
Forensic Lab Supervisor	1	0	0	0	1
Forensic Technician	4	1	0	1	6
Latent Fingerprint Ex III	3	0	0	0	3
Latent Fingerprint Ex IV	1	0	0	0	1
Maint Spec Bfc Jrny II/Lead	1	0	0	0	1
Paralegal II	1	0	0	0	1
Totals	38	1	0	1	40